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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* JEFFERY A. DEAN, CRAIG SILVERSTEIN and  
LAWRENCE E. PAGE

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Appeal 2009-008227  
Application 09/734,883  
Technology Center 2100

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Before ST. JOHN COURTENAY III, ELANI MANTIS MERCADER, and  
BRADLEY W. BAUMEISTER, *Administrative Patent Judges*.

COURTENAY, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants seek our review under 35 U.S.C. § 134 of the Examiner's final decision rejecting claims 39, 41-66. Claims 1-38 and 40 have been cancelled. We have jurisdiction over the appeal under 35 U.S.C. § 6(b).

We Affirm-in-part.

## BACKGROUND

Appellants' invention is directed to information retrieval and more particularly to systems and methods that modify entries in a document. (Spec. 1).

Claim 39 is illustrative:

39. A computer-implemented method, comprising:
- identifying a document that is stored on a server in a network and that includes links to linked documents;
  - determining scores for a plurality of the links in the identified document;
  - modifying the identified document based on the determined scores, where the modifying includes:
    - reordering at least two of the links based on the determined scores, or
    - sorting at least two of the links based on the determined scores; and
  - providing the modified document to a user.

The Examiner relies on the following prior art references as evidence of unpatentability:

Pant	US 6,012,053	Jan. 4, 2000
Page	US 6,285,999 B1	Sep. 4, 2001
Arthurs	US 6,592,261 B1	Jul. 8, 2003

Armstrong, Robert, et al., "WebWatcher: A Learning Apprentice for the World Wide Web" (February 1995), pp. 1-7.

Appellants appeal the following rejections:

1. Claims 39, 41, 44-46, 52, 53, 56-61, and 64-66 under 35 U.S.C. § 103(a) as unpatentable over Armstrong and Pant.
2. Claims 47-51 under 35 U.S.C. § 103(a) as unpatentable over Arthurs and Pant.
3. Claims 42, 43, 54, 55, 62, and 63 under 35 U.S.C. § 103(a) as unpatentable over Armstrong, Pant and Page.

Claims 39, 43, 44, and 45

Based upon Appellants' arguments, we select claim 39 as the representative claim of this group. *See* 37 C.F.R. §41.37(c)(1)(vii).

Appellants contend that Pant does not disclose or suggest “modifying an identified document, that is stored on a server in a network, based on scores determined for a plurality of the links in the identified document, where the modifying includes reordering at least two of the links in the identified document based on the determined scores, or sorting at least two of the links in the identified document based on the determined scores.” (App. Br. 12)(underline in original).

Appellants also contend that the relevance determination and sorting module described in Pant is not operating upon links in an identified document that is stored on a server in a network, but instead is operating upon items in a set of search results. Appellants aver that these search results are not an identified document that is stored on a server in a network. (App. Br. 12).

Appellants further contend that the Examiner's reasons to combine the disclosures of Armstrong and Pant lack merit, and there is no viable reason to incorporate the features of Pant into the system of Armstrong. (App. Br. 13).

## ISSUES

(1) Under §103, did the Examiner err in determining that the cited combination of references would have taught or suggested modifying an identified document, that is stored on a server in a network based on scores determined for a plurality of the links in the identified document, where the modifying includes reordering at least two of the links in the identified document based on the determined scores, or sorting at least two of the links in the identified document based on the determined scores, within the meaning of representative claim 39?

(2) Under §103 did the Examiner err in combining Armstrong and Pant?

## FACTUAL FINDINGS

1. The Examiner relies on Armstrong to disclose the feature of modifying an identified document that is stored on a server in a network. Pant is relied upon to teach scores determined for a plurality of the links in the identified document, where the modifying includes reordering at least two of the links in the identified document based on the determined scores, or sorting at least two of the links in the identified document based on the determined scores. (Ans. 28)

2. Armstrong discloses receiving a web page from a user, and returning the web page to the user. The returned web page includes a recommendation for promising links by highlighting these links on a user's display. (Sect. 2, pg. 1, 3, Fig. 4).

3. Pant discloses determining a relevance ranking of search results from a query on a collection of items of information. (Col. 2, ll. 25-28). A relevance determination module outputs an indication of a score indicative of relevance for each of the items in the set of search results. (Col. 2, ll. 36-38). A sorting module receives the score associated with each item and an indication of the set of search results, and an output providing to the user an indication of the items in the set of search results in an order ranked according to the relevance score of each item. (Col. 2, ll. 36-43).

Additional findings of fact may appear in the Analysis that follows.

## ANALYSIS

(1) As noted above, Appellants contend that the cited references, (particularly Pant), do not disclose or suggest modifying an identified document, that is stored on a server in a network, based on scores determined for a plurality of the links in the identified document, where the modifying includes reordering at least two of the links in the identified document based on the determined scores, or sorting at least two of the links in the identified document based on the determined scores. We find this argument unpersuasive for the reasons discussed *infra*.

We note that Appellants have attacked Pant in isolation. (App. Br. 11-12). However, we find that the Examiner's position relies on the combined teachings of Armstrong *and* Pant.<sup>1</sup> (FF 1). Therefore, we find Appellants' singular attack on Pant is unavailing.

As noted above, we find that Armstrong teaches or suggests modifying (by highlighting) an identified document (web page from user) that is stored on a server. We further find that Pant, as relied upon by the Examiner, teaches or suggests ranking and sorting the links of search results. (FF 3).

Therefore, we are in accord with the Examiner's finding that the *combined* teachings of Armstrong and Pant would have taught or suggested modifying an identified document that is stored on a server in a network based on scores determined for a plurality of the links in the identified document, and sorting or reordering at least two of the links in the identified document based on the determined scores, within the meaning of representative claim 39.

### *Combinability under § 103*

(2) We next consider the question: whether the Examiner erred in combining Armstrong and Pant.

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<sup>1</sup> We note that "[t]he test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art." *In re Young*, 927 F.2d 588, 591 (Fed. Cir. 1991) (citing *In re Keller*, 642 F.2d 413, 425 (CCPA 1981)). "Non-obviousness cannot be established by attacking references individually where the rejection is based upon the teachings of a combination of references." *In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986) (citing *Keller*, 642 F.2d at 425). In determining obviousness, a reference "must be read, not in isolation, but for what it fairly teaches in combination with the prior art as a whole." *Id.*

In response to the Examiner's reason for combining Armstrong and Pant, Appellants contend that Armstrong has nothing to do with results from a search query, because it would not make sense to modify Armstrong's system to provide a mechanism through which results from a search query are ranked are reordered and presented. (App. Br. 13).

As noted above, the Examiner looks to the secondary Pant reference as evidence that determining scores for links and sorting the links according to the determined scores were features known to artisans at the time of Appellants' invention. (FF 1). On this record, we are of the view that Appellants' purported improvement over the prior art represents no more than the predictable use of prior art elements (i.e., ranking search results according to their respective relevance, and sorting the search results according to their rankings, and modifying a document to reflect the determined relevance) according to their established functions, and thus would have been obvious to one of ordinary skill in the art. *See KSR Int'l Co. v. Teleflex Inc.* 550 U.S. 398, 417 (2007) ("when a patent 'simply arranges old elements with each performing the same function it had been known to perform' and yields no more than one would expect from such an arrangement, the combination is obvious.") (citing *Sakraida v. AG Pro, Inc.*, 425 U.S. 273, 282 (1976)).

Therefore, we find that the Examiner did not err in combining Armstrong and Pant. Accordingly, for the reasons discussed above, we find that the Examiner did not err in rejecting representative claim 39. We affirm



the rejection of claim 39 and claims 43,<sup>2</sup> 44, and 45 which fall therewith. *See* 37 C.F.R. §41.37(c)(1)(vii).

#### Claim 41

Appellants contend that the cited references do not disclose or suggest determining a score for each of the linked documents based on the scores of the one or more linking documents. (App. Br. 14).

Appellants further contend that Armstrong discloses that “WebWatcher” (as disclosed in Armstrong) determines the most promising links based on information regarding the current web page, information about the information that is sought, information about the link, and possibly information about the user. (App. Br. 15)

The Examiner contends that WebWatcher (Armstrong) finds hyperlinks on the page document that are strongly recommended by its search control knowledge. Therefore, according to the Examiner, WebWatcher would *implicitly* have a mechanism in place to determine scores for a plurality of the links in the identified document in order to determine which links/documents to strongly recommend. Therefore, in order for WebWatcher to “strongly” recommend a hyperlink, there would be a mechanism in place to determine the relevance of the searched links and the recommended (highlighted) hyperlink would be determined by its score. (Ans. 31-32).

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<sup>2</sup> As noted above, claim 43 was rejected over Armstrong, Pant and Page. Appellants urge the patentability of claim 43 based on the arguments presented for claim 39. (App. Br. 39). Because we find no deficiencies with Armstrong and Page as discussed above regarding claim 39, claim 43 falls with claim 39, from which it depends.

Appellants also contend that even if *arguendo* WebWatcher *implicitly* has a mechanism to score links in a document, the Examiner has not established that the scoring mechanism scores the links based on the scores of the linked documents pointed to by those links, where the scores of the linked documents are based on the scores of the one or more linking documents that link to the linked documents. (Reply Br. 7-8).

## ISSUE

Under §103, did the Examiner err in determining that the cited combination of references would have taught or suggested determining a score for each of the linked documents based on the scores of the one or more linking documents? (Claim 41).

## FACTUAL FINDINGS

4. Pant discloses that one relevance factor is the location of a search term in a document, or the field that contains the search term. For example, if the search term is contained in the title of the document, that document may be more relevant than a document in which the search term appears in the footnote. (Col. 6, ll. 36-40).

## ANALYSIS

Based upon our review of the record, we find that Armstrong (WebWatcher program) inherently discloses a mechanism for scoring the linked documents.<sup>3</sup> It is our view that such a mechanism is necessary in

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<sup>3</sup> “The inherent teaching of a prior art reference, a question of fact, arises both in the context of anticipation and obviousness.” *In re Napier*, 55 F.3d

Armstrong in order to suggest (i.e., rank according to some form of “score”) one link over the other links on the page.

In addition, as noted *supra*, Pant discloses a sorting module that receives a score associated with each item and an indication of the set of search results, and an output providing to the user an indication of the items in the set of search results in an order ranked according to the relevance score of each item. (FF 3).

We find that the combination of these teachings suggests that determining a score for each of the linked documents based on the scores of the one or more linking documents. (Claim 41). As noted above, Pant discloses determining a relevance ranking for a given result. (FF 3). We further find that the “relevance” of the links to a document is determined or ranked against the relevance of the other links, based on where the search term appears in the documents. (FF 4). As also discussed above, the rank for a link is used to determine the score for the link. Therefore, we find that the combination of cited references would have taught or suggested a score for each of the linked documents based on the scores of the one or more linking documents, as recited in claim 41. Accordingly, we affirm the rejection of claim 41.

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610, 613 (Fed. Cir. 1995) (affirmed 35 U.S.C. § 103 rejection based in part on inherent disclosure in one of the references).

### Claim 42

Appellants contend that the cited references do not disclose determining a score for each linked document based on a clickthrough rate for each of the linked documents. (App. Br. 38).

Appellants contend that the Examiner's determination is unreasonable that the claimed clickthrough rate is equivalent to Page's disclosure of determining the popularity of a document. (*Id.*).

### ISSUE

Under §103, did the Examiner err in determining that the cited references would have taught or suggested determining a score for each of the linked documents based on the determined clickthrough rates, as recited in claim 42?

### FACTUAL FINDINGS

5. Page discloses that citation counting is a simple method for determining the importance of a document by counting its number of citations or backlinks. (Col. 2, ll. 20-24).

### ANALYSIS

As discussed above with regards to claim 39 from which claim 42 depends, we find that Armstrong discloses determining a score for each linked documents. (FF 1-2). Appellants aver that Page's "citation counting" is not equivalent to the claimed "clickthrough rate." (App. Br. 38). However, we find the weight of the evidence supports the Examiner's position that citation counting (FF 57) is at least suggestive of the claimed clickthrough

rate. Thus, we are in accord with the Examiner's ultimate legal conclusion of obviousness regarding dependent claim 42.

Accordingly, we affirm the Examiner's rejection of claim 42.

#### Claims 46 and 52-58

Appellants contend that the cited references would not have taught or suggested deleting one of the links from the identified document when the determined score for the one of the links falls below the threshold, as recited in claim 46. (App. Br. 16).

The Examiner contends that according to Pant, regardless of the relevance factor, the result of the search, which is determined by the number of hits found in the search, will be the same. However, only links with scores above an established threshold will be displayed to the user. Links that fall below the threshold will be deleted from the identified document. (Ans. 32).

#### ISSUE

Under §103, did the Examiner err in determining that the cited references would have taught or suggested deleting one of the links from the identified document when the determined score for the one of the links falls below the threshold? (Claims 46 and 52).

## FACTUAL FINDINGS

6. Pant discloses that the “search query and number of hits remains unchanged, but the presentation of the results differs.” (Col. 13, ll. 22-24).

## ANALYSIS

We interpret the aforementioned limitation to require that a link in the identified document initially exists (claim 39 and 46), and the link is then deleted from the identified document when the score falls below the threshold.

We agree with Appellants’ arguments with respect to claim 46 for essentially the same reasons argued in the Brief regarding the teachings of Pant. (App. Br. 16-18). On this record, we find that the Examiner has not established that the cited combination of references would have taught or suggested a link that is *deleted once the score for the link falls below a threshold* as claimed. As cited by Appellants (App. Br. 17), Pant discloses that the “search query and number of hits remains unchanged, but the presentation of results differs.” (FF 6). Therefore, we agree with Appellants that Pant does not teach nor fairly suggest that the presentation of the results is changed because the score falls below a threshold or that the presentation is changed because a link is deleted. (FF 6).

Accordingly, we reverse the Examiner’s rejection of claim 46. We note that independent claim 52 recites commensurate limitations. Therefore,

we also reverse independent claim 52 and associated dependent claims 53-58, for the same reasons discussed above regarding claim 46.<sup>4</sup>

#### Claims 59-66

Appellants argue that the cited references would not have taught or suggested providing additional information regarding a linked document pointed to by one of the links, and providing to the user the additional information regarding the linked document, as recited in claim 59. (App. Br. 25).

The Examiner contends Armstrong teaches that WebWatcher could be made to search several pages ahead by following its own advice while waiting for the user input. If it encounters an especially promising page while searching ahead, it might suggest to the user to jump to this page rather than follow tediously along the path that the agent has already traversed. (*See* Ans. 35).

Appellants also contend that Armstrong discloses that the promising page identified by the WebWatcher system while the user is in a current page is not information regarding a linked document pointed to by a link in the current page. Rather, according to Appellants, it is clear in Armstrong that there are several links separating the promising page from the current page. (Reply Br. 10).

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<sup>4</sup> Dependent claims 54 and 55 were rejected as obvious under § 103 over Armstrong, Pant, and Page. We have not found, nor has the Examiner established, that Page cures the deficiencies of Armstrong and Pant discussed *supra*.

## ISSUE

Under §103, did the Examiner err in determining that the cited references would have taught or suggested providing additional information regarding a linked document pointed to by one of the links and providing to the user the additional information regarding the linked document? (Claim 59).

## FACTUAL FINDINGS

7. Armstrong discloses that information associated with hyperlinks is text based. Armstrong also discloses information about an outgoing link. (Sec. 3.2).

## ANALYSIS

On this record, we find the Appellants' arguments persuasive. It is our view that although Armstrong discloses suggesting a jump to another page, the Examiner has not established that the suggestion is *additional information* regarding a linked document pointed to by a link in the current page as claimed. Therefore, we agree with Appellants that Armstrong's identified "promising page" is not additional information regarding the linked document. Section 3.2 of Armstrong (relied upon by the Examiner), in our view, teaches that the additional information concerns *the current page*, and not a linked document. (FF 7).



Therefore, we find the Examiner erred in rejecting independent claim 59. Accordingly, we reverse the rejection of claim 59 as well as associated dependent claims 60-66.<sup>5</sup>

#### Claims 47-51

Appellants contend that the cited references do not disclose or suggest determining a score for one of the links based on a degree of match between the search query and a content of a linked document pointed to by the one of the links, as recited in independent claim 47. (App. Br. 29-30).

The Examiner contends that Arthurs discloses a search result which displays sites/hyperlinks that are ranked according to scores. The score is determined based on which relevance/weight or score is determined based on the frequency and location that a word resides on the web page. (Ans. 36-37).

#### ISSUE

Under §103, did the Examiner err in determining that the cited references teach or suggest determining a score for one of the links based on a degree of match between the search query and a content of a linked document pointed to by the one of the links, as recited in claim 47?

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<sup>5</sup> Dependent claims 62 and 63 were rejected as unpatentable over Armstrong, Pant, and Page. We have not found, nor has the Examiner established, that Page cures the deficiencies of Armstrong and Pant discussed *supra*.

### ANALYSIS

We broadly but reasonably construe the language of claim 47 to require that the degree of match based on the search query and the content of the linked document is determined and used to determine a score for a link in a document.

Based on the above construction, we find Appellants' arguments persuasive. (*See* Reply Br. 11-12). More particularly, we do not find, nor has the Examiner established, that Arthurs teaches or suggests scoring links in one of the web sites that correspond to one of the search results based on a degree of match between the search query and the content of web sites pointed to by one of the links as claimed. As discussed by the Examiner (Ans. 37), Arthurs discloses displaying common sites with respect to the selected website/hyperlink. *See* Arthurs col. 8, l. 34. However, we agree with Appellants that the cited portions of Arthurs do not teach nor fairly suggest determining a score *based on a degree of match* as claimed.

Therefore, we reverse the rejection of independent claim 47 as well as associated dependent claims 48-51 which stand therewith.

### DECISION

We affirm the Examiner's § 103(a) rejections of claims 39, and 41-45.

We reverse the Examiner's § 103 rejections of claims 46-66.

Appeal 2009-008227  
Application 09/734,883

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

ORDER  
AFFIRMED-IN-PART

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